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Water Levels for the Great Lakes and Montreal Harbour *a monthly bulletin from Canadian Hydrographic Service*

About the monthly Water Level bulletin

December Precipitation Over the Great Lakes

As a percentage of the long-term December average:

Great Lakes Basin	72%
Lake Erie (including Lake St. Clair)	120%
Lake Superior	67%
Lakes Michigan-Huron	52%

LEVEL news

Great Lakes - St. Lawrence River Water Levels

Volume 11, Number 1 January 9, 2003

December Supplies Below Average on All Lakes Except Erie

Water Level Information Table Added as New Feature

Starting this month, LEVELnews will have a new feature. In place of the highlight box previously provided at the bottom of the first page, a table summarizing current Great Lakes water level conditions can now be found.

By referring to this table, readers will, at a glance, be able to see how monthly mean water levels for the previous month and water levels at the beginning of the current month compare to their respective long-term average values as well as levels recorded at the same time one year ago.

Great Lakes Water Level Information

	December Monthly Mean Level		Beginning of January Level	
Lake	Compared to Monthly Average (1918-2001)	Compared to One Year Ago	Compared to Beginning-of-Month Average (1918-2001)	Compared to One Year Ago
Superior	16 cm below	4 cm below	16 cm below	6 cm below
Michigan-Huron	47 cm below	14 cm below	47 cm below	14 cm below
St. Clair	30 cm below	12 cm below	27 cm below	9 cm below
Erie	17 cm below	6 cm below	13 cm below	2 cm below
Ontario	20 cm below	20 cm below	21 cm below	19 cm below

Current Conditions

December water supplies were below average on the lakes Superior, Michigan–Huron and Ontario basins. Although the December local basin supply was well above average on Lake Erie, the total supply to this lake was just slightly above average due to the below average inflows it received from

Lake Ontario 76%

Note: These figures are preliminary.

December Outflows From the Great Lakes

As a percentage of the long-term December average:

Lake Superior 102%

Lake Erie 95%

Lake Huron 90%

Lake Ontario 92%

Note: These figures are preliminary.

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Summary information for "LEVEL*news*"

Lake Huron.

Monthly mean water levels on all of the lakes fell by a few centimetres more than average from November to December. Daily water levels also declined from the beginning to the end of December on all lakes, except Lake Erie. Daily levels on Lake Erie increased by 5 cm during December in response to the above average supplies received by this lake during the month.

Water levels on all of the Great Lakes remain below their long-term average levels for this time of year and are lower than those of one year ago. Water levels are notably low on Lakes Michigan-Huron, which began January 47 cm below average and 12 cm below chart datum.

The monthly mean level at Montréal Harbour remained below chart datum during December, and set a new record December minimum for the period since 1967.

The levels of lakes Superior and Michigan-Huron are expected to continue to decline during January. Recent trends in daily water levels observed on lakes Erie and Ontario suggest these lakes are at, or near, their annual minimum levels. Water levels on these lakes will likely remain stable or rise slightly during January.

Water Supplies to the Great Lakes

More change is on the way. In order to better explain the ups and downs in water levels, watch for LEVELnews to have an increased focus on the monthly water supplies to each of the Great Lakes.

While precipitation, which is often noted, is one component of the water balance equation, net basin supply and net total supply are better indicators of hydrologic conditions affecting lake levels. Net basin supply (often referred to as the local basin supply) is the combined effect of over-lake precipitation, basin runoff and evaporation from the lake's surface. The net total supply, or more simply, the total supply to a lake consists of the net basin supply for the lake plus its inflow from the upper lakes as applicable.

The water level of each of the Great Lakes depends on the balance between the total water supplies received by a lake and its outflow (or discharge). If the water supplies received by the lake are greater than those discharged, its level will rise. Conversely, if the water supplies are less than the discharge, the lake's level will fall.

Lake Erie-Niagara River Ice Boom

Installation of the Lake Erie-Niagara River Ice Boom was completed on December 12th. Preparations for span placement began on December 2nd when six floatation barrels were installed. Eight barrels were installed on the 3rd and the final nine were placed on the 4th. All strings of pontoons were removed from their summer storage area and placed behind the Buffalo Harbor breakwater by December 9th. Installation of the ice boom's 22 spans followed on the 11th and 12th.

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